From: Granger, Michelle
To: Hauber, Erin M CIV USARMY CENWK (USA)
Subject: RE: request to collect additional soil samples during ISTR installation
Date: Wednesday, February 06, 2019 11:06:00 AM

Hi, Erin-
Hope all is well with you!
Just touching base… Did Bruce agree with USACE/EPA request to collect additional soil samples during ISTR installation in area to the north of PDI-SB-33 (and corresponding depths where TCE was noted above the remedial goal) and to the south of SB-32 to confirm the modeled extent of TCE >1 mg/kg? Please let me know.
Just want to be sure before I respond to their request for extension regarding the submittal of the 90% RD.
Thank you!
Michelle-

From: Hauber, Erin M CIV USARMY CENWK (USA) <Erin.M.Hauber@usace.army.mil>
Sent: Tuesday, January 15, 2019 3:40 PM
To: Bruce S Kennington <bkennington@ramboll.com>
Cc: Granger, Michelle <Granger.Michelle@epa.gov>; Brink, Bradley J CIV USARMY CENWK (US) <Bradley.J.Brink@usace.army.mil>; Nanci Higginbotham <Nanci.E.Higginbotham@usace.army.mil>
Subject: RE: during the furlough...

Bruce,
Please see additional follow-up to the topics and items listed in the email chain below:

1. Final thermal treatment zone – USACE, on behalf of EPA, acknowledges the logistical challenges and impact to schedule associated with installation of borings to the north of PDI-SB-33 and south of SB32. Rather than delay the construction schedule for additional characterization, USACE/EPA requests collection of soil samples during ISTR installation in area to the north of PDI-SB-33 (and corresponding depths where TCE was noted above the remedial goal) and to the south of SB-32 to confirm the modeled extent of TCE >1 mg/kg.
2. 90% RD:
    a. USACE, on behalf of EPA, reviewed the 30% RD responses to comments transmitted via email on Dec. 18, 2018 and concurs with incorporating these responses into the 90% RD.
    b. If a modification to the 90% RD schedule is needed during the partial shutdown, USACE will review the schedule modification request and route to appropriate EPA personnel.

Let us know if you have further questions.
Erin
Erin Hauber, P.E.
Civil Engineer
Kansas City District
US Army Corps of Engineers
816.389.2280

From: Hauber, Erin M CIV USARMY CENWK (USA)
Sent: Thursday, January 10, 2019 4:22 PM
To: 'Bruce S Kennington' <bkennington@ramboll.com>

Cc: Granger, Michelle <Granger.Michelle@epa.gov>; Brink, Bradley J CIV USARMY CENWK (US) <Bradley.J.Brink@usace.army.mil>; Higginbotham, Nanci E CIV USARMY CENWK (US) <Nanci.E.Higginbotham@usace.army.mil>
Subject: RE: during the furlough...

Bruce,

Below are answers to the items noted in the email chain below:

Items #1&2: Information and responses received. We will discuss internally and issue a follow-up response.

Items #3: We understand the change in treatment volume and plume geometry resulting from the 7 additional borings installed over the holiday shutdown will impact a number of design assumptions and approach for the 90% RD. USACE, on behalf of EPA, requests that consistent with Section IV, A, 7 of the OU3 Statement of Work outlining the contents of monthly progress reports, the PRP submit written justification for anticipated delays in schedule to USACE and EPA on official letterhead with appropriate signatures. Please include a revised 90% RD submittal timeframe in your letter.

> SOW Section IV, A, Item 7, "An identification of all delays encountered or anticipated that may affect the future schedule for performance of the OU3 Work, and all efforts made by the Primary Settling Defendant to mitigate delays or anticipated delays."

Additionally, USACE has reviewed the 30% RD responses and will send preliminary feedback on behalf of EPA for the purposes of moving forward with the 90% RD.

Let me know if you'd like to discuss any of the above items.

Thanks,

Erin

Erin Hauber, P.E.
Civil Engineer
Kansas City District
US Army Corps of Engineers
816.389.2280

From: Bruce S Kennington [mailto:bkennington@ramboll.com]
Sent: Wednesday, January 9, 2019 2:35 PM
To: Hauber, Erin M CIV USARMY CENWK (USA) <Erin.M.Hauber@usace.army.mil>
Cc: Luis Hidalgo (Luis.Hidalgo@riotinto.com) <Luis.Hidalgo@riotinto.com>; Granger, Michelle <Granger.Michelle@epa.gov>; Brink, Bradley J CIV USARMY CENWK (US) <Bradley.J.Brink@usace.army.mil>; Higginbotham, Nanci E CIV USARMY CENWK (US) <Nanci.E.Higginbotham@usace.army.mil>; David T Heidlauf <dheidlauf@ramboll.com>
Subject: [Non-DoD Source] RE: during the furlough...

Dear Erin:

After reviewing with our team, please see the following regarding your questions.

1. Regarding the ability to step to the north of SB33 in the red clouded area presented on the attached figure, this would impact Albea's operation. Please note that although product is not manufactured in this portion of the plant it is a hygienically clean area and is an operational area of the facility. Accordingly, no additional step out soil borings are planned in this area.

   It is noted from the results of the seven (7) supplemental soil borings (PDI-SB27 to PDI-SB33) installed during the December plan shutdown, continued additional attenuation in TCE concentrations were observed spatially outward from earlier soil borings at PDI-SB25 and PDI-SB26 and at all locations within the Main Production Area. Significant attenuation to single-digit parts-per-million concentrations were observed both laterally and also at depth. For example,

moving outward from PDI-SB25 the following results were obtained in the glacial till lithology:

To the Northeast

Boring Location	Concentration Range (mg/kg) TCE > 1 mg/kg	Depth Interval (ft bgs) TCE > 1 mg/kg
PDI-SB25	1.2 to 11	84 to 122
PDI-SB27	2.1 to 5.0	87 to 102
PDI-SB29	All results < 1.0 mg/kg	*

*elevated PID readings at ~85 to 90 ft bgs.

To the North

Boring Location	Concentration Range (mg/kg) TCE > 1 mg/kg	Depth Interval (ft bgs) TCE > 1 mg/kg
PDI-SB25	1.2 to 11	84 to 122
PDI-SB31	1.3 to 5.5	87 to 117
PDI-SB33	1.2 to 3.4*	82 to 95

*While the highest result of 3.4 mg/kg at PDI-SB33 at 92 ft bgs is above the RG of 1 mg/kg, significant numeric attenuation in TCE concentrations and also reduction in the depth and the thickness of the zone impact were observed moving from PDI-SB25 to PDI-SB31 and PDI-SB33 on the north. Given the facility limitations, it is proposed to incorporate a design factor based on the observed diffusion distances in this area beneath the MPA (i.e., on the order of 25 feet).

2. Images with the preliminary output of the updated 3-dimensional EVS model incorporating the results of the supplemental soil borings (PDI-SB27 to PDI-SB33) were provided earlier and are also included in the attached zip file. The updated visualization illustrates the estimated volume of soils impacted above the RG of 1 mg/kg TCE, and predicts a zone of impact that extends approximately 25 feet to the north of PDI-SB33, and is consistent with the attenuation distances on the order of 25 feet as observed elsewhere beneath the Washington Facility plant building.
3. Regarding the ability to install ISTR infrastructure from within the former Molding Room area based on this revised treatment volume, this is presently being evaluated with our Cascade drilling team.

We look forward to feedback from the Agency and so that we may make progress toward the timely completion of the Pre-Final (90%) Remedial Design for OU3.

Please let me know if you have any questions or would like to discuss.

Sincerely,

Bruce

Bruce S Kennington
Principal

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M +1 (312) 953-9965
bkennington@ramboll.com

From: Hauber, Erin M CIV USARMY CENWK (USA) <Erin.M.Hauber@usace.army.mil>

Sent: Friday, January 04, 2019 4:18 PM

To: Bruce S Kennington <bkennington@ramboll.com>

Cc: Luis Hidalgo (Luis.Hidalgo@riotinto.com) <Luis.Hidalgo@riotinto.com>; Granger, Michelle <Granger.Michelle@epa.gov>; Brink, Bradley J CIV USARMY CENWK (US) <Bradley.J.Brink@usace.army.mil>; Higginbotham, Nanci E CIV USARMY CENWK (US) <Nanci.E.Higginbotham@usace.army.mil>

Subject: RE: during the furlough...

Bruce,

We received and reviewed the remaining analytical data and surveyed boring locations circulated via email yesterday morning. In the interest of keeping things moving during the furlough, we'd like to gather your thoughts on the following:

- Ability to step to the north of SB33 in the red clouded area in the attached. Could a boring be installed in this area while the plant is active? In another drawing, this area was labeled "Warehouse".
- Modeled footprint of the volume of soil > 1 mg/kg TCE (if available)

Ability to install ISTR infrastructure from the Molding room based on revised treatment area.
Thank you for the frequent updates throughout the PDI this past week. I hope everyone has a chance to recover from 24-hr shifts spanning the holidays. We look forward to discussing next steps.
Erin
Erin Hauber, P.E.
Civil Engineer
Kansas City District
US Army Corps of Engineers
816.389.2280
-----Original Message-----
From: Bruce S Kennington [mailto:bkennington@ramboll.com]
Sent: Monday, December 31, 2018 10:18 AM
To: Granger, Michelle <Granger.Michelle@epa.gov>
Cc: Hauber, Erin M CIV USARMY CENWK (USA) <Erin.M.Hauber@usace.army.mil>; Luis Hidalgo (Luis.Hidalgo@riotinto.com) <Luis.Hidalgo@riotinto.com>
Subject: [Non-DoD Source] RE: during the furlough...
Acknowledged, Michelle. Will do.
Bruce S Kennington
Principal
D +1 (312) 288-3834
M +1 (312) 953-9965
bkennington@ramboll.com
-----Original Message-----
From: Granger, Michelle <Granger.Michelle@epa.gov>
Sent: Monday, December 31, 2018 8:53 AM
To: Bruce S Kennington <bkennington@ramboll.com>
Cc: Erin.M.Hauber@usace.army.mil
Subject: during the furlough...
Hi, Bruce-
As you know EPA is on furlough at this time. During this time, please continue to contact Erin Hauber, USACE for direction.
Thank you!
Michelle-